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EXAMINER	
MILORD, MARCEAU	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/737,118	MATSUNAGA, YASUHIKO	
	Examiner	Art Unit	
	Marceau Milord	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,6-17,20,23-33,35,36,38-40,42,43 and 46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *3 and 6-10* is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *12,13,15,16,24,25,27,28,30,32,35 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 11, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takao et al (US Patent No 6871071 B2) in view of Brouwer (US Patent No 6799045 B1) and Laakso (US Patent No 6671512 B2).

Regarding claim 11, Takao et al discloses a radio resource management method (figs. 1-3) comprising the steps of: detecting (32 or 31 of figs. 1 and 6) the occurrence of interference between service areas provided by plural radio base stations (21 or 22 of fig. 1 and fig. 6;col. 3, line 44- col. 4, line 16; col. 7, line 59-col. 8, line 33; figs. 10-11; col. 13, line 45-col. 14, line 29) and controlling (RNC of figs. 1 and 6) transmission power (col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45). A detection means determines a signal quality of the

radio signal. The signal quality may be used for detecting interference existing in the radio signal (col. 8, lines 4-16; col. 13, line 45-col. 14, line 29).

However, Takao et al does not specifically disclose the steps of controlling transmission power of a common control signal, which governs a scope of a service area that a radio base station forms, for interference suppression in response to said occurrence of interference between service areas provided by plural radio base stations; detecting the occurrence of interference based on radio link quality information notified from each of said radio base stations.

On the other hand, Brouwer, from the same field of endeavor, discloses the steps of controlling transmission power of a common control signal, which governs a scope of a service area that a radio base station forms, for interference suppression in response to said occurrence of interference between service areas provided by plural radio base stations; detecting the occurrence of interference based on radio link quality information notified from each of said radio base stations (col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

Brouwer shows in figure 6, a radio network controller that receives measurement reports from radio base stations including periodic uplink interference and downlink power measurements, where each radio network controller includes a network interface for interfacing communications with various base stations (col. 6, lines 50-61; col. 5, lines 24-52; col. 8, lines 22-58). An admission/congestion controller also responds to requests to allocate new radio resources and takes action where necessary to regulate traffic conditions in the cell if an overload or congested condition is detected (it means :detect interference and suppress interference). The transmit power controller performs power control operations based on messages received from

the RNC and/or from mobile stations. One or more signal-to-interference ratio detectors may be used to detect the SIR of signals received from mobile stations. The transmit power control commands may include one or more bits which indicate a desired increase in transmit power, a desired decrease in transmit power (it means: control transmission power of a common control signal, which governs a scope of a service area that a radio base station forms). The transmit power controller in the bases station provides transmit power control commands to its transmitters engaged in communication with a mobile station (see fig. 8; col. 11, lines 25-42; col. 12, lines 19-42).The comparator determines that the transmit power control commands are reliable. A threshold detector detects the output from the counter and compares it with a threshold. If the threshold has been exceeded, a signal may be generated indicating a condition requiring radio network attention and/or response. The condition may be one of congestion, too high an interference value or other condition requiring possible action by the radio network. The threshold detector detects if the measured uplink power or interference level at the base station exceeds a threshold for the cell (figs. 5-9;col. 10, lines 45-67; col. 11, lines 1-63; col. 12, lines 19-42; col. 13, lines 12-33).

Laakso also discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network

controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). It is clear that Brouwer and Laakso discloses the steps of controlling transmission power of a common control signal, which governs a scope of a service area that a radio base station forms, for interference suppression in response to said occurrence of interference between service areas provided by plural radio base stations; detecting the occurrence of interference based on radio link quality information notified from each of said radio base stations. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the modified system of Brouwer and Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 14, Takao et al discloses a radio base station (figs. 1, 3, 6; 21 or 22 of figs. 1, 3, 6), comprising a detector for detecting (32 or 31 of figs. 1 and 6) the occurrence of interference between service areas provided by plural radio base stations (21 or 22 of fig. 1 and fig. 6; col. 3, line 44- col. 4, line 16; col. 7, line 59-col. 8, line 33) and controller for controlling (RNC of figs. 1 and 6) transmission power (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45). A detection means determines a signal

quality of the radio signal. The signal quality may be used for detecting interference existing in the radio signal (col. 8, lines 4-16; col. 13, line 45-col. 14, line 29).

However, Takao et al does not specifically disclose the steps of controlling transmission power of a common control signal which governs a scope of a service area that a radio base station forms, to suppress interference autonomously in response to said occurrence of interference between plural service areas.

On the other hand, Brouwer, from the same field of endeavor, discloses the features of a controller for controlling transmission power of a common control signal which governs a scope of a service area that a radio base station forms, to suppress interference autonomously in response to said occurrence of interference between plural service areas col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

Brouwer shows in figure 6, a radio network controller that receives measurement reports from radio base stations including periodic uplink interference and downlink power measurements, where each radio network controller includes a network interface for interfacing communications with various base stations (col. 6, lines 50-61; col. 5, lines 24-52; col. 8, lines 22-58). An admission/congestion controller also responds to requests to allocate new radio resources and takes action where necessary to regulate traffic conditions in the cell if an overload or congested condition is detected (it means :detect interference and suppress interference). The transmit power controller performs power control operations based on messages received from the RNC and/or from mobile stations. One or more signal-to-interference ratio detectors may be used to detect the SIR of signals received from mobile stations. The transmit power control commands may include one or more bits which indicate a desired increase in transmit power, a

desired decrease in transmit power (it means: control transmission power of a common control signal, which governs a scope of a service area that a radio base station forms). The transmit power controller in the bases station provides transmit power control commands to its transmitters engaged in communication with a mobile station (see fig. 8; col. 11, lines 25-42; col. 12, lines 19-42).The comparator determines that the transmit power control commands are reliable. A threshold detector detects the output from the counter and compares it with a threshold. If the threshold has been exceeded, a signal may be generated indicating a condition requiring radio network attention and/or response. The condition may be one of congestion, too high an interference value or other condition requiring possible action by the radio network. The threshold detector detects if the measured uplink power or interference level at the base station exceeds a threshold for the cell (figs. 5-9;col. 10, lines 45-67; col. 11, lines 1-63; col. 12, lines 19-42; col. 13, lines 12-33).

Laakso also discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink

interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). It is clear that Brouwer and Laakso discloses the steps of controlling transmission power of a common control signal, which governs a scope of a service area that a radio base station forms, for interference suppression in response to said occurrence of interference between service areas provided by plural radio base stations; detecting the occurrence of interference based on radio link quality information notified from each of said radio base stations. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Leakso to the modified system of Brouwer and Takao in order to provide a method for traffic load control in a telecommunication network.

3. Claims 17, 20, 23, 26, 29, 31, 33, 38-40, 42-43, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takao et al (US Patent No 6871071 B2) in view of Laakso (US Patent No 6671512 B2).

Regarding claim 17, Takao et al discloses a radio resource method (figs. 1-3; 12 of figs. 1 and 3) comprising the steps of: receiving information of radio link qualities from plural radio terminals (32 or 31 of figs. 1 and 6; col. 3, line 44- col. 4, line 16; col. 7, line 59-col. 8, line 33) and controlling (RNC of figs. 1 and 6) a load, being a radio terminal accommodated in a radio base station (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

However, Takao et al does not specifically disclose the features of a radio link quality information including information on link utilization to a radio base station in communication with each of the radio terminals, and wherein the load distributed control is based on the sum of sets of the link utilization information collected from respective radio terminals for each radio base station.

On the other hand, Laakso, from the same field of endeavor, discloses the features of a radio link quality information including information on link utilization to a radio base station in communication with each of the radio terminals, and wherein the load distributed control is based on the sum of sets of the link utilization information collected from respective radio terminals for each radio base station (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink

interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 20, Takao et al discloses a radio resource method (figs. 1-3; 12 of figs. 1 and 3) comprising: a receiver for receiving information of radio link qualities from plural radio terminals (32 or 31 of figs. 1 and 6; col. 3, line 44- col. 4, line 16; col. 7, line 59-col. 8, line 33) wherein said radio link quality information includes information on link utilization to a radio base station, which is in communication with each of said radio terminals (col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

However, Takao et al does not specifically disclose the features of a controller for distributively controlling a load, being a radio terminal accommodated in a radio base station, based on the information of radio link qualities from plural radio terminals, said controller comprising means for distributively controlling a load based on the sum of sets of said link utilization information collected from respective radio terminals for each radio base station.

On the other hand, Laakso, from the same field of endeavor, discloses the features of a controller for distributively controlling a load, being a radio terminal accommodated in a radio base station, based on the information of radio link qualities from plural radio terminals, said

controller comprising means for distributively controlling a load based on the sum of sets of said link utilization information collected from respective radio terminals for each radio base station (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 23, Takao et al discloses a radio resource management method (figs. 1-3; 12 of figs. 1 and 3) comprising the steps of receiving information of radio link qualities from plural radio terminals (32 or 31 of figs. 1 and 6; col. 3, line 44- col. 4, line 16; col. 7, line 59-col. 8, line 33) and a controller for controlling power (RNC of figs. 1 and 6) of a radio base station (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

However, Takao et al does not specifically disclose the steps of controlling transmission power of a radio bases station based on the information of radio link qualities from plural radio terminals.

On the other hand, Laakso, from the same field of endeavor, discloses the steps of controlling transmission power of a radio bases station based on the information of radio link qualities from plural radio terminals (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating

and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 26, Takao et al discloses a radio resource management apparatus (figs. 1-3; 12 of figs. 1 and 3) comprising: a receiver for receiving information of radio link qualities from plural radio terminals (32 or 31 of figs. 1 and 6; col. 3, line 44- col. 4, line 16; col. 7, line 59-col. 8, line 33) and controller for controlling (RNC of figs. 1 and 6) transmission power of a radio base station (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

However, Takao et al does not specifically disclose the steps of controlling transmission power of a radio base station based on the information of radio link qualities from plural radio base stations.

On the other hand, Laakso, from the same field of endeavor, discloses the steps of controlling transmission power of a radio base station based on the information of radio link qualities from plural radio base stations (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10,

lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 29, Takao et al discloses a radio resource management method (figs. 1-3; 12 of figs. 1 and 3) comprising the steps of: receiving information of radio link qualities from

plural radio terminals (32 or 31 of figs. 1 and 6; col. 3, line 44- col. 4, line 16; col. 7, line 59-col. 8, line 33) and controlling (RNC of figs. 1 and 6) changing a frequency used by a radio base station (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8-col. 20, line 45).

However, Takao et al does not specifically disclose the features of controllably changing a frequency used by a radio base station based on the information of radio link qualities from plural radio terminals.

On the other hand, Laakso, from the same field of endeavor, discloses the features of controllably changing a frequency used by a radio base station based on the information of radio link qualities from plural radio terminals (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink

interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 33,Takao et al discloses a radio terminal (figs. 1-3; 32 or 31 of figs. 1 and 3) comprising: means (21 or 22 of figs. 1 and 3) for measuring a radio link quality and then notifying a radio resource management apparatus (12 of figs. 1 and 3) of radio link quality information being the measurement result, the notifying means performing a notifying operation at predetermined notification intervals (col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

However, Takao et al does not specifically disclose the features of a means for responding distributed control indication for a load being a radio terminal accommodated in a radio base station, based on said radio link quality information, the distributed control indication being created from the radio resource management apparatus, and switching a radio base station to be connected.

On the other hand, Laakso, from the same field of endeavor, discloses the features of a means for responding distributed control indication for a load being a radio terminal accommodated in a radio base station, based on said radio link quality information, the

distributed control indication being created from the radio resource management apparatus, and switching a radio base station to be connected (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 38, Takao et al discloses a radio resource management apparatus in a radio communication system, comprising: a processor and a media comprising a computer readable program that, when the program is run by the processor (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

On the other hand, Laakso, from the same field of endeavor, discloses the features of controlling a load, being a radio terminal accommodated by a radio base station, based on radio link quality information provided by on plural radio terminals (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col.

10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 39, Takao et al discloses a radio resource management apparatus in a radio communication system, comprising; a processor and a media comprising a computer readable program that, when the program is run by the processor, causes the apparatus to perform steps comprising: of controlling transmission power of a radio base station (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

On the other hand, Laakso, from the same field of endeavor, discloses the features of controlling transmission power of a radio base station, based on radio link quality information provided by on radio link qualities notified from plural radio terminals (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller.

In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 40, Takao et al discloses a radio resource management apparatus in a radio communication system, comprising; a processor and a media comprising a computer readable program that, when the program is run by the processor (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

On the other hand, Laakso, from the same field of endeavor, discloses the features of changing a frequency used by a radio base station based on radio link quality information provided by on radio link qualities notified from plural radio terminals (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control

device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 42, Takao et al discloses a radio resource management apparatus for managing radio resources of plural radio base stations each providing a service area in a radio communication system said radio base stations, comprising: a processor and a media comprising a computer readable program that, when the program is run by the processor (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

On the other hand, Laakso, from the same field of endeavor, discloses the features of responding to occurrence of interference between plural service areas and controlling transmission power, to suppress interference autonomously (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to

the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 43, Takao et al discloses a radio resource management apparatus in a radio communication comprising: distributively controlling a load, being a radio terminal accommodated in a radio base station (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

On the other hand, Laakso, from the same field of endeavor, discloses the features of a controller for distributively controlling a load, based on the information of radio link qualities from plural radio terminals, including based the sum of sets of said link utilization information collected from radio terminals for each radio base station (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink

interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Regarding claim 46, Takao et al discloses a processor and a media comprising a computer readable program that, when the program is run by the processor, causes the terminal to perform steps comprising: measuring a radio link quality; and notifying a radio resource management apparatus of the radio link quality accommodated in a radio base station, and thus switching a radio base station to be connected (21 and 22 of figs. 1 and 6; col. 9, line 42- col. 10, line 55; col. 11, line 65; col. 19, line 8- col. 20, line 45).

On the other hand, Laakso, from the same field of endeavor, discloses the steps of responding a distributed control indication of a load based on said radio link quality information including the sum of sets of link utilization information collected from radio terminals for each radio base station said distribution control being created from said radio resource management apparatus (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17).

Laakso discloses a method for traffic load control in a telecommunication network, where a radio transceiver device defining a cell of said network being controlled by a network control device comprising the steps of: setting a first reference load value for the load of a respective cell; monitoring the load of the respective cell, and in response to the load exceeding the first reference load value, manipulating the power control to decrease the transmission power levels in the cell. The radio network controller RNC and respective base stations exchange data. The load control functionality is located both in the base station and in the radio network controller. In addition, the load control of the radio network controller RNC is also responsible for updating and providing to the admission control means and packet scheduling means the load related information, which is available in the radio network controller RNC. The total uplink interference power PrxTotal and total downlink transmission power PtxTotal are reported periodically to the radio network controller RNC from base station BS by using radio resource indication by using a layer three signaling (col. 2, lines 1-55;col. 3, line 32-col. 4, line 34; col. 10, lines 5-67; col. 11, line 4-64; col. 12, lines 26-55; col. 15, lines 6-41; col. 16, line 45-col. 17, line 67; col. 20, line 54-col. 21, line 17). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Laakso to the communication system of Takao in order to provide a method for traffic load control in a telecommunication network.

Allowable Subject Matter

4. Claims 3, 6-10, are allowed.

Allowable Subject Matter

5. Claims 12-13, 15-16, 24-25, 27-28, 30, 32, 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments with respect to claims 11, 14, 20, 23, 26, 29, 31, 33, 38-40, 42-43, 46, have been considered but are moot in view of the new ground(s) of rejection.

Response to Arguments

7. Applicant's arguments filed 6/30/2009 have been fully considered but they are not persuasive.

Applicant's representative argues that Brower does not disclose the steps of controlling transmission power for … for interference suppression… between service areas.

However, Brower discloses a radio network controller that includes a network interface for interfacing communications with various base stations. In addition, the base station includes a controller connected to a plurality of transceivers. The controller controls the overall operation of the base station. It controls transmission power and also suppresses interference. The transmit power controller determines the transmit power level, as a signal to noise ratio of the received, diversity-combined signal (interference suppression). The transmit power controller in the bases station provides transmit power control commands to its transmitters engaged in communication with a mobile station (fig. 6, fig. 8; col. 10, line 36-col. 11, line 12; col. 11, lines 15-42; col. 12, lines 19-42).

Laakso also discloses a method for traffic load control in a telecommunication network comprising the steps of monitoring the load, manipulating the power control to decrease the transmission power level in the cell where each cell can contain a base station. This system uses closed loop power control technique. Total interference power and total transmission power are determined and evaluated (fig. 1, fig. 3A-3C; col. 20, lines 3-64;col. 12, line 34-col. 13, line 43; col. 14, line 54-col. 15, line 30). Applicant is referred to the technique used in figure 3A, where a means for closed loop power control will override normal transmit power commands and an acknowledgment message will send back to the load control means of a respective base station. It is considered that Laakso discloses the steps of controlling transmission power of a common control signal which governs a scope of a service area that a radio base station forms, to suppress interference.

Applicant's representative also argues that Laakso does not teach the steps of controlling a load based on the "the sum of sets of link utilization collected from radio terminals for each radio base station.

Laakso clearly discloses a method for load control, where the load control functionality is located both in the base station and in the radio network controller. Total interference power and total transmission power are determined and evaluated based on the sum of sets of link collected from mobile stations and base stations (col. 9, line 48-col. 10, line 62; col. 12, line 21-col. 13, line 43).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. M./

Primary Examiner, Art Unit 2618

/Marceau Milord/

Primary Examiner, Art Unit 2618

Search Notes (continued)	Application/Control No. 10/737,118	Applicant(s)/Patent under Reexamination MATSUNAGA, YASUHIKO
	Examiner Marceau Milord	Art Unit 2618

SEARCHED			
Class	Subclass	Date	Examiner
455	63.1	11/6/2009	MM
455	522	11/6/2009	MM
455	67.13	11/6/2009	MM
455	67.11	9/29/2008	MM
370	342	9/29/2008	MM
370	335	9/29/2008	MM
370	331	9/29/2008	MM
455	453	9/29/2008	MM

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	DATE	EXMR
UPDATED EAST TEXT SEARCH/CLASS/SUBCLASS	11/6/2009	MM